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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,178	09/23/2003	Farrokh Avazi	062020-1450	4090
24504	7590	09/02/2005		EXAMINER
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			TAKAOKA, DEAN O	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/669,178	AVAZI ET AL. 
	<b>Examiner</b>	<b>Art Unit</b>
	Dean O. Takaoka	2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 August 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-18 is/are allowed.  
 6) Claim(s) 19 and 20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 13 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Information Disclosure Statement***

The information disclosure statement filed March 12, 2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because reference F (S. Pourkamali et al., Single Crystal Silicon Filter Arrays) does not include a date. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen et al. (U.S. Patent No. 6,424,074).

Claim 19:

Nguyen et al. shows a filter (where the method of synthesizing a filter is generic defining or defined by the final product, where the final product of Nguyen et al. is inherently made by and/or defined by the method) comprising providing a first MEMS resonator (18, resonator 1) and a second MEM resonator (18, resonator 2) adjacent to the first MEMS resonator (Fig. 5A); and electrically coupling the first and second MEMS resonator (via spring coupler 19), where electrically coupling includes providing an active component (defined as movable spring 19) between the first and second MEMS resonator; and applying a voltage polarization voltage (Dc bias – Vp, et al.) to effect a resonance frequency at the first MEMS resonator that is substantially equal to the second MEMS resonator frequency (Fig. 4) and cascading the first and second MEMS resonator such that Q-amplification is effected (col. 5, lines 30-40).

Claim 20:

Further including electrically coupling additional resonators (Fig. 14 where a plurality of filters are shown).

*Allowable Subject Matter*

Claims 1 – 18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The Examiner agrees with Applicant's arguments that the prior art of Nguyen, Zurn, Thompson et al., all show mechanically coupled resonators where the resonators and/or the coupling element are mechanically coupled (albeit electrically coupled) and not mechanically separate, nor does the prior art teach or suggest having mechanically

separate coupled resonators, nor would it be obvious to do so, thus the claims are allowable.

***Response to Arguments***

Applicant's arguments, see pages 8 – 16, filed August 17, 2005, with respect to rejections of claims 1 – 18 contained in the Office action dated May 10, 2005 have been fully considered and are persuasive. The rejections of claims 1 – 18 have been withdrawn.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bircumshaw et al. shows capacitively coupled resonators.

Pourkamali teaches the MEM resonator.

De Los Santos shows MEMS resonator filter circuits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O. Takaoka whose telephone number is (571) 272-1772. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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August 29, 2005